

# Case Study — Experimental Practices: Humanities and Arts in the Process of Modeling Knowledge for Data-Based Society

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Accelerating progress in the development of technological tools, the achievements of the sciences, and above all the ways of collecting and modeling data, are significantly changing the mechanisms of knowledge construction. In the data-based society (Gillespie T., et.al. 2014; Ebeling M, 2016), the model of which is in the process of being defined, knowledge is generated on the basis of ‘big data’, which are then subject to multi-level processes of management, modeling and interpretation. Therefore, it is said, with increasing frequency, that many of the scientific questions on researchers’ agendas now require collaborative research. The new humanities, together with related artistic-research practices, are becoming a crucial part of the process of analyzing and interpreting such data, with a focus on their social and cultural impact.

We created the Humanities/Art/Technology Research Center at the Adam Mickiewicz University in Poznań in 2010 in order to search for effective strategies for conducting research on new social and cultural phenomena associated with the data-based society, and to explore the possibilities of new didactic methods. Hence, both these perspectives (research strategies and didactic methods) have determined the focus of the center’s activity for almost 10 years.

Transdisciplinary methods, which we use extensively, are based on collaborative work involving specialists from various disciplines – including designers and artists, as well as people from outside of academia. Another key element of such methods is the use of various forms of scientific data and research results, which, during the course of the work, are repeatedly processed and analyzed from very different perspectives. Transdisciplinarity neither entails the specialists in a team simply cooperating, with everyone remaining safely within their area of competence, nor is it just an attempt to mix disciplines – but rather consists of combining knowledge systems

and developing a shared direction for research development (Allen W., et.al. 2014). Transdisciplinary strategy, especially when developed in relation to humanistic research, does not involve speculating on the basis of scientific theories or the creation of new metaphors, but rather the inclusion of new research perspectives in the analysis of a problem.

## Case Study

An example of our transdisciplinary research is our exploration of the spectral character of the Chernobyl disaster (A. Jelewska, M. Krawczak, 2018), which, as a complex case study, cannot be subsumed under any particular scientific discipline (research on the disaster was conducted in the fields of radiology, geology, biology, genetics, environmental studies, psychology, sociology, cultural studies, political science, post-soviet studies, medicine, and many others). The case study itself constitutes a transdisciplinary research object. Therefore, data on a catastrophe are scattered across different disciplines, and in this case even the data itself – such as radiological readings obtained by different types of measuring instruments – are not only of exclusively scientific significance, but are also cultural artifacts in their own right. In this nexus, the long-term consequences of a disaster determine the environment, both in terms of its biological, geological and atmospheric sphere, as well as its political, economic, energy, social and cultural sphere. Moreover, the long-term duration of a disaster and its evolving consequences also have an impact on the changing research disciplines and measuring instruments themselves; therefore, new readings and new data are directly linked to the culture in which they appear, at the level of social, political, media and artistic experience. In our research, an important perspective is provided by

STS (Science-Technology Studies), posthumanism and various ecological concepts that enable the inclusion of so-called non-human actors in the field of research, and the acquisition and analysis of data about the disaster and its social and cultural consequences on their basis.

## Research Grants

The research presented above has been conducted within the framework of the many grants we have obtained, including the completed *Algorithms of New Democratization. Polish Art of Digital Era*. (ed. Jelewska A. 2014); and the ongoing *Art as Laboratory of the New Society. Cultural Consequences of the Post-Technological Turn*<sup>(1)</sup> is a research project that aims to explore the relationship between European society and modern laboratory knowledge in the context of the post-technological breakthrough; and *Mediated Environments. New practices in humanities and transdisciplinary research*<sup>(2)</sup> focuses on the work of multi-disciplinary research groups in various scientific laboratories, and attempts to develop experimental models for transdisciplinary issues such as cyber-agriculture, network distributions of palm oil, and the consequences of deep-sea mining for future generations.

## Art&Science

Since 2010, we have carried out many projects, some of which were artistic experiments – such as the 2012 *Transnature is Here exhibition*, where we persuaded artists to cooperate with scientists and grapple with the latest scientific theories in the fields of biology, cognitive science, bioacoustics and social robotics. In 2015, together with a team of architects, media artists and composers, we created the *Post-Apocalypsis* system, using the method of weather data sonification, which was exhibited at the Prague Quadrennial of Performance Design and Space. The system addressed the issue of ecological changes under the influence of energy disas-

1. *Art as Laboratory of the New Society. Cultural Consequences of the Post-Technological Turn, 2014-2020*, PI: Agnieszka Jelewska, Co-PI: Michał Krawczak, Co-PI: Jacek Wachowski, founded by Polish National Science Centre, (grant no. UMO-2014/13/B/HS2/00508)

2. *Mediated Environments. New practices in humanities and transdisciplinary research*, 2016-2021, PI: Agnieszka Jelewska, Co-PI: Michał Krawczak, founded by Polish Ministry of Higher Education (grant no. 0014/NPRH4/H2b/83/2016).

ters and the possibility of studying the human factor as an element of causality (Jelewska A., 2015, Krawczak M., 2015). The intersection of art and science is now proving to be one of the essential spaces for experimenting with new methods of translating scientific facts, and also for critical intervention based on acquired knowledge in a specific area. Additionally, what connect artistic and scientific activities are data operations, hence their common transdisciplinary dimension.

## Workshops and Studies

The transdisciplinary tools and strategies developed in the framework of our research are later used in the teaching process – in university classes and workshops where researchers, artists, designers and activists are trained together. The HAT Research Center is one of the entities responsible for conducting an MA in Interactive Media and Performance studies (Adam Mickiewicz University), in which the project-based learning method is applied, with a special focus on field-research methods and critical design. As part of the curriculum, in addition to traditional academic courses, students work on socially relevant case-studies. Thanks to the combination of such curricula with the direction of research carried out at HAT Research Center, it is now possible for us to continually implement new elements and transform our didactic methods. On the other hand, the workshops within which transdisciplinary teams are put together (usually composed of representatives of various scientific disciplines, artists, designers, as well as social activists) enable us to develop new methods of cooperation in a transdisciplinary group and to develop somewhat different research issues from scientific and social perspectives, using technologies and experimental artistic practices. In recent years, for example, we conducted the *Emotional Urban Weather* (2015) workshops on sound ecology, communication and locational disorders in the post-technological city, and *Hyperobjects* (2017), which focused on the issue of individual participation in environmental research, and on forms of eco-activity and building social responsibility.

In a global world where knowledge is based on collecting, processing and preserving data, the humanities and artistic-research practices provide an opportunity to experiment extensively with ways of analyzing and interpreting these data, taking social, economic, political and cultural factors into account.

Laboratory and experimental activities for the new humanities are projects combining artistic and scientific practices – allowing for a new way of prototyping solutions, experiences and, what is equally important, a critical discourse for the data-based society.

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